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A Conversation With Koko the Gorilla

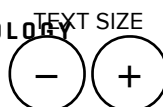
An afternoon spent with the famous gorilla who knows sign language, and the scientist who taught her how to “talk”



The author and Koko

Alysia Alexander

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One of the first words that Koko used to describe herself was Queen. The gorilla was only a few years old when she first made the gesture—sweeping a paw diagonally across her chest as if tracing a royal sash.

“It was a sign we almost never used!” Koko’s head-caretaker Francine Patterson laughed. “Koko understands that she’s special because of all the attention she’s had from professors, and caregivers, and the media.”

The cause of the primate’s celebrity is her extraordinary aptitude for language. Over the past 43 years, since Patterson began teaching Koko at the age of 1, the gorilla has learned more

than 1,000 words of modified American Sign Language—a vocabulary comparable to that of a 3-year-old human child. While there have been many attempts to teach human languages to animals, none have been more successful than Patterson’s achievement with Koko.

If Koko is a queen, then her kingdom is a sprawling [research facility](#) in the mountains outside Santa Cruz, California. It was there, under a canopy of stately redwoods, that I met research-assistant Lisa Holliday.

“You came on a good day,” Holliday smiled. “Koko’s in a good mood. She was playing the spoon game all morning! That’s when she takes the spoon and runs off with it so you can’t give her another bite. She’s an active girl. She’s always got her dolls, and in the afternoon, her kittens—or as we call them, her kids.”

It was a winding stroll up a sun-spangled trail toward the cabin where Patterson was busy preparing a lunch of diced apples and nuts for Koko. The gorilla’s two kitten playmates romped in a crate by her feet. We would go deliver the meal together shortly, but first I had some questions for the 68-year-old researcher. I wanted to understand more about her famous charge and the rest of our closest living relatives.

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Roc Morin: What do you remember from that first moment when you and Koko met?

Francine Patterson: At that time, she was on exhibit at a children’s zoo. There was a giant window where we could view her. She was pretty spunky—very playful and curious, but she was also a bit insecure. She had a blanket that she carried with her whenever she went into new spaces.

Morin: How did you know that you wanted to work with her?

Patterson: She understood some English from the very beginning, because she was immersed in a language-speaking environment. She also had some signs when I arrived that she used without anybody prompting her. So, I created new signs and asked questions. That was all within the first few weeks. I noticed she was very good with it.

Morin: So, she already understood the concept of symbolic communication?

Patterson: I think she was already doing it, but when she got our signs added to hers, she generalized them—for example, the “food” sign. She would perch on this high spot where she could watch people come and go and she would sign “food” to them. It might mean “Give me the treat you’ve got,” or it might mean “I want my toothbrush,” or even just, “Engage with me.” She understood that signs had power. That particular sign got her food, so she wondered, “What else can I do with it?”

Morin: You mentioned that when you met her, Koko already was making signs of her own. Do gorillas use them to communicate among themselves?

Patterson: That's what's being discovered. People have looked at zoo gorillas gesturing, and they [make signs] extensively under certain situations. I think 100 different ones have been cataloged in various studies, both in free-living and zoo-dwelling gorillas. They have a pretty extensive system that may even have some cultural differences, if you look at different populations. The free-living gorillas might talk about simple things like “Where are we going to get our next meal?” but here [at the research facility] there is so much more to talk about.



Ronald Cohn / The Gorilla Foundation / Koko.org

Morin: How deep can your conversations go?

Patterson: It started early on with a conversation Koko had with one of her caregivers about death. The caregiver showed Koko a skeleton and asked, “Is this alive or dead?” Koko signed, “Dead, draped.” “Draped” means “covered up.” Then the caregiver asked, “Where do animals go when they die?” Koko said, “A comfortable hole.” Then she gave a kiss goodbye.

Morin: How would Koko know about death?

Patterson: We had gone on walks and seen dead birds and things. So, we asked her about those things. Gorillas have been observed, at least in zoos, to bury dead animals.

Morin: I'm curious about the signs that gorillas make amongst themselves—are the signs and their meanings consistent or is it more fluid than that?

Patterson: It's both really. Sometimes they create them on the spot. Koko has created new signs for things that we didn't even have signs for, "barrette" for example—she simply traced a line where the barrette would be in your hair. Some of her signs were harder to figure out. I remember Koko was doing a gesture that goes across the top of her head and forward. We were telling her, "We just don't understand what you're saying. Can you say it another way?" She couldn't. She just kept doing that one sign. Then, I looked at some footage of her brother at the San Francisco zoo engaged in play with another gorilla, and I saw the gesture. Finally, I understood what it meant. He did the same exact gesture and jumped off a rock to play with the other gorilla. It means "take off" in the sense of "jump off." Koko wanted us to take off our lab coats. She and her brother had the same gesture, even though they had never met.

Morin: So, you're suggesting that they have innate gestures?

Patterson: Yes, and there was another weird one both of them did, which I translated as "Walk up your back." They put their hands palm-up behind their back and sort of bounce them a little. For Koko, that's an invitation for a play game that involves me walking my fingers up her back.

"When she tears a page out of a magazine or a book, it's not trash. It's meaningful."

Morin: Besides gestures, are there other forms of communication that Koko uses?

Patterson: Certainly. I realized that when she tears a page out of a magazine or a book, it's not trash. It's meaningful. She wants us to see it. Plus, she also uses some cards we gave her [with objects printed on them] when she has something to say. I remember one Valentine's Day, she had some cards out waiting for me that stated pretty clearly "Where are the goodies?"

Morin: She's aware of symbolic events?

Patterson: Very much so—birthdays, anniversaries, holidays. Even a month before her birthday, she starts putting out some of these cards with birthday designs on them—birthday

cakes and things like that. We had a celebration, I think it was Easter, and Koko was very excited for the festivities to start. She even got dressed for the occasion, fashioning a bright-yellow piece of fabric into a skirt. Her timing was perfect.

Morin: Is her concept of time similar to the human concept?

Patterson: I would say, yes, definitely. So much so, that in terms of the passing of [her kitten] All Ball—even 15 years later, whenever she encountered a picture of a kitten that looked like All Ball, she would sign, “Sad. Cry.” and point to the picture. She was still mourning after many years.

Morin: I read that she met Robin Williams once and had a similar reaction when she learned about his death.

Patterson: She actually wasn't told that he passed away. I was with her and we started getting phone calls when the news broke. She was right next to me and could hear the conversation and knew that something was wrong. She asked me to tell her what it was. So I did. It was upsetting to everybody.

Morin: She remembered who he was?

Patterson: Oh yes. She had watched him in movies before, and his visit was not too long after [her gorilla playmate] Michael's passing. She hadn't smiled, and she had been very, very sad—not talking much, not eating much. And, when [Robin Williams] came she knew he was a funny man, and she started to come out of that. She had her first smile with him, her first laugh, and her first invitation to play a game with someone. He helped her healing.

Morin: Does a gorilla smile look the same as a human smile?

Patterson: Maybe a little more subtle. If you see a gorilla smile you can definitely identify it though.

Morin: Do you think that gorillas have a theory of mind?

Patterson: Definitely, and it's not restricted to the great apes. It's a very adaptive ability to have and probably rather widespread.

Morin: Throughout the animal kingdom?

Patterson: I would say. For example, I went to a conference in Indonesia, and we went out to look for proboscis monkeys. We were able to identify a few, but as we moved, they disappeared almost instantly. They shifted their body positions so that we couldn't see them at any given point. That's an example of projecting what we can and can't see. Very protective of course.

Morin: How does primate cognition compare to that of humans?

Patterson: It's similar, but each species has different specialties. Orangutans plan escapes by weakening little bits of mesh over time and not saying anything, and just when it's ripe, they're

out! Bang! If you look at [Tetsuro] Matsuzawa's work—he has shown that chimpanzees are better at [short-term memory tasks](#) than we are.

Morin: We talked about theory of mind. I want to ask about self-awareness. I understand that Koko passed the [mirror self-recognition test](#). Can you describe that process?

Patterson: She had been exposed to a mirror very early on. In the beginning, she looked behind the mirror for the other gorilla, but eventually came to use it as a tool and to groom herself and do all the activities that people do. Eventually, we did a formal test where she got marked. I did the same thing with Michael. He was used to being washed with a washcloth, but this time we secretly put pink paint on it to mark him. When he looked in the mirror, he was shocked. I realized it look like his forehead had been ripped open.

Morin: He believed he was wounded then? How would he know what that looked like?

Patterson: Well, he was a bushmeat orphan. [Poachers] butchered his parents in front of him. He described that on camera once, actually. Early on, [researcher] Barbara Weller asked him, "Who is your mother?" He said "You." And she said, "No, your gorilla mother." And then, he started into this story.

Morin: What did he say?

Patterson: He was using all types of new gestures to show what he saw, like "cut" and "neck." There was another one where it looked he was showing spots on his face, probably blood. They were nonstandard gestures.

Morin: Did he seem traumatized by that experience?

Patterson: He was really traumatized. Anytime a male worker came around, especially those doing tree work, he would just run over and scream at them. [The incident with his parents] may have involved traps and trees. We don't know what happened. He also would scream in the middle of the night in his nightmares.

Morin: Did he ever communicate the substance of those nightmares?

Patterson: Yes, the night after he screamed I asked him [about that] and got a very similar story.

Morin: I'm working on a project collecting [dreams from around the world](#), but I've just been focusing on human dreams so far. Maybe I'm limiting myself. Has Koko shared any with you?

Patterson: This is really weird, but you know that movie Jurassic Park? They saturated the media with ads that were very graphic with dinosaurs eating humans and all kinds of things. Well, Koko saw them, and several days later one of our caregivers reported her acting very strangely towards her toy dinosaurs and alligators. She was acting as though they were real, and was very frightened of them, and didn't want to touch them. She was using tools to get them away from her. I do believe she had a nightmare about them.

Morin: Does she move around in her sleep or make vocalizations that lead you to believe that she's dreaming?

Patterson: We have a video on her all the time and we catch sign-like gestures, but I don't remember any of them right now.

“[Gorillas] are so much in harmony with nature, we surely could use them as a model.”

Morin: You mentioned before in the case of Barbara Weller that Michael saw her as a kind of mother. Do you feel that way with Koko?

Patterson: Oh yeah, the maternal instinct is raging with a baby gorilla! I would much prefer to have a baby gorilla than a baby human.

Morin: Koko herself has expressed her desire to be a mother, hasn't she?

Patterson: Very much so. She takes on that role with her kittens. She tries to hold them up to nurse, but of course she doesn't understand the mechanics of that. We've tried to set up a family situation where that would work, but one-on-one is not a social unit for gorillas.

Morin: They need to be in a troop to mate?

Patterson: It takes a village.

Morin: What kinds of research are you currently working on with Koko?

Patterson: Basically, to expand and pay attention to the many ways she communicates with us in more sophisticated, subtle ways. We're also learning to pay attention to her use of things in her environment. Not just things with words, but positioning objects over time. I forgot to mention that in terms of time. I noticed once that Koko somehow had put a cover over a small table [in her room] and the underneath part was private. The first thing that appeared under there was a Koko doll that we had made for her—a plush gorilla. The next day I came in, there was a larger gorilla doll next to it. The next day, there was a baby in between them. So, she told a story.

Morin: What other stories has she told?

Patterson: Koko is more of a verbal manipulator and an object manipulator. Michael was the

big storyteller. As soon as he had the words “cat” “eat” “bird” and “bad,” he was saying that cats eat birds and they’re bad.

Morin: He had a moral judgment about killing?

Patterson: Right. Look what happened to him and his family, and cats are doing the same things—killing others and eating them.

Morin: Are there moral lessons we can learn from non-human primates?

Patterson: There are all kinds of lessons in there about heroism and empathy. [The gorilla] Binti Jua saved a boy who fell into her enclosure. They were shooting a hose at her to keep her away from that boy, and she rescued him in the face of that punishment and took him to her caregivers. Washoe [a chimpanzee] did the same thing. She pulled a chimpanzee out of a moat when she had never ventured [into the water before] and had no idea what she was getting into.

Morin: Getting back to Koko and Michael, why do you think they’re such good communicators? Are they special or could any gorilla be taught to communicate similarly?

Patterson: I think the rich environment played a large part. There was a study of [Michael’s brain](#), and there are certain structures of his brain that are more like humans than any other animal they’ve looked at.

Morin: If the gorillas are becoming more human-like, are you becoming more gorilla-like?

Patterson: Yeah, I think we’ve become a little bit more like gorillas. Maybe we’re more blunt, and also just quiet. They just look like little Buddhas!

Morin: Do you have a sense of what that mentality is like experientially for them?

Patterson: Uncontaminated by humans, they are definitely closer to living in the now. Our problem is that we live in the past and we live in the future, but we very rarely dwell in the now. They are so much in harmony with nature, we surely could use them as a model.

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My first glimpse of Koko was through the chain-link fence marking the boundary of her play room. Holliday directed me to a plastic chair. “If she likes you,” the assistant offered, “she’ll gesture for you to come closer onto the porch with her.” I said hello through the surgical mask that an assistant had given me along with a pair of latex gloves. With a [98 percent genetic similarity](#), gorillas and humans are susceptible to most of the same pathogens. I tried to smile with my eyes as I made the sign of greeting—a little salute.

Patterson cautioned me earlier to refrain from asking Koko questions. I was to let the gorilla take the lead. “She has that royal air about her,” the researcher explained, “and she doesn’t entertain questions. Just like you wouldn’t question the queen—Koko is the same way. She’ll disengage.”

After a moment, the 350-pound primate gestured for me to approach. I thanked her as I climbed onto the porch, touching one of the big black fingers that she offered through the fence. She purred. “That means she’s happy,” Patterson noted.

For nearly a minute, Koko and I gazed into one another’s eyes. Hers were dark and serene.

It was impossible to be there interacting with her, and not feel that I was in the presence of another self-conscious being.

With Patterson acting as translator, Koko directed me to remove my mask. The gorilla demonstrated that she wanted me to blow out, so she could smell my breath. Olfaction is important to gorillas, Patterson explained. The gorilla was sussing me out. Next, Koko asked me to pick some flowers from a nearby garden and bring them over. I gave her a red blossom first, which she promptly ate. The second one I offered, she took, and then handed back to me. Patterson said that Koko wanted me to eat it too. I told Koko that I liked the smell and asked if she did too. She sniffed at it once, before turning her head, apparently unimpressed.

After a while, Patterson brought in the kittens. Koko gently picked up the grey one, and cradled it in her arms. I asked if the kitten was her baby. She purred, and offered it to me, to pet through the fence.

The gorilla turned to Patterson and requested that I enter her enclosure. “That’s a very nice compliment,” the researcher told me. “It means she really likes you. Unfortunately, we can’t let you in.”

She turned back to the gorilla who already seemed to understand Patterson’s dismissal. Any human parent would immediately recognize her tight-lipped, arms-crossed, hunched-over pouting posture.

“Aw, I’m sorry darling,” Patterson apologized. Koko pointed to the lock on the door and gestured again, even more emphatically that it should be opened. When Patterson again refused, Koko turned her back on us, seemingly in protest.

Ultimately, it was hard to avoid constructing a narrative around what I was seeing. It was hard to look at Koko and not experience some aspect of myself staring back at me. There was no way to know how much of her behavior was intentional and how much was my own or Patterson’s

projection. Allegations of selective interpretation have accompanied ape-language research from the beginning. Still, it was impossible to be there interacting with her, and not feel that I was in the presence of another self-conscious being.

As the clock ran down on our visit, Patterson informed Koko that I was leaving. The gorilla gestured goodbye, and watched me go—and there it was again, that profoundly penetrating gaze that reciprocated my own. I didn't want to go. It was a gaze that drew me in closer and closer, even as I moved farther and farther away. I thought of all the radio and optical telescopes of the world perpetually aimed at the sky—scanning the heavens for the faintest glimmer of intelligent life. All this, while we are still so far from truly understanding the intelligent life here at home.

ABOUT THE AUTHOR



ROC MORIN is a journalist based in New York and the curator of the [World Dream Atlas](#).
